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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,928	05/30/2001	Miki Arita	HYAE:118	5143

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PARKHURST & WENDEL, L.L.P.
1421 Prince Street, Suite 210
Alexandria, VA 22314-2803

EXAMINER

LEE, Y YOUNG

ART UNIT PAPER NUMBER

-2613

DATE MAILED: 06/28/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/866,928

Applicant(s)

ARITA ET AL.

Examiner

Y. Lee

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 3-7,9-22,25-29 and 31-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8,23 and 30 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention: Claims 1-42 show 11 embodiments as illustrated in Figures 1-30.

- (1) species I, Figures 1-4;
- (2) species II, Figures 5-7;
- (3) species III, Figures 8-10;
- (4) species IV, Figures 11-14;
- (5) species V, Figures 15-18;
- (6) species VI, Figures 19-22;
- (7) species VII, Figures 23 and 24;
- (8) species VIII, Figures 25 and 26;
- (9) species IX, Figure 27;
- (10) species X, Figures 28 and 29; and
- (11) species XI, Figure 30.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species and the appropriate Figure(s) of the drawings that is elected consonant

with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Mr. R. Wieland on 6/21/04 a provisional election was made with traverse to prosecute the invention of Species I, claims 1, 2, 8, 23, 24, and 30. Affirmation of this election must be made by applicant in replying to this Office action. Claims 3-7, 9-22, 25-29, and 31-42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. It is noted applicant originally also elected claims 9, 10, 31, and 32. However, these claims are directed to embodiments VI-X. Therefore, claims 9, 10, 31, and 32 are also withdrawn from consideration along with other non-elected claims.

Art Unit: 2613

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The abstract of the disclosure is objected to because of inclusion of legal phraseology such as "comprises" in line 5. Correction is required. See MPEP § 608.01(b).

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Motion Vector Detection Apparatus Performing the Checker-Pattern Subsampling With Respect to the Pixel Arrays".

Claim Objections

8. Claims 2 and 24 are objected to because of the following informalities: lines 4, 6, and 7, respectively "the" should be changed to --a--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 2, 23, 24, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
11. Claim 2 recites the limitation "the count value" in lines 10-11. There is insufficient antecedent basis for this limitation in the claim.
12. Claim 23 recites the limitation "the stored reference area data" in line 15. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1, 8, 23, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Lim et al (6,332,002).

Lim et al, in Figures 7, 11, 12, and 17, discloses a motion prediction apparatus and method that is the same motion vector detection method and apparatus for detecting a motion vector MV as specified in claims 1, 8, 23, and 30 of the present invention, by performing block matching between a target block comprising a plurality of pixels in a current image, and a reference block comprising a plurality of pixels in a predetermined reference area in a past image that is previous to the current image, the method and apparatus comprising a first address generator 100 for generating addresses of data in the target block and addresses of data in the reference area; a first storage unit 102 for holding data of the reference area designated by the first address generator; a second storage unit 104 for holding data of the target block designated by the first address generator; a second address generator 110 for generating addresses of data to be outputted from the first storage unit and the second storage unit; and a motion vector detector 108 for detecting a motion vector by using the data outputted from the first storage unit and the data outputted from the second storage unit; wherein the second address generator performs Subsampling on the addresses of the data to be outputted from the first storage unit and the second storage unit so that the addresses are sampled in a checker pattern with respect to pixel arrays corresponding to images of the reference block and the target block (Figs. 12 and 17).

With respect to claims 8 and 30, Lim et al also discloses the motion vector detector is an integer precision motion vector detector that detects an integer precision

motion vector (e.g. Layer 0) from the data outputted from the first storage unit and the data outputted from the second storage unit.

Allowable Subject Matter

15. Claims 2 and 24 would be allowable if rewritten to overcome the objection(s) and rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: Claims 2 and 24 are considered allowable over the prior art because none of the references of record alone or in combination suggest, disclose, or teach an address generator comprises a row counter, a column counter, and an address holder; wherein an inverted value of the least significant bit of a count value outputted from the column counter is added to each address of pixel data, thereby performing a checker-pattern subsampling with respect to pixel arrays corresponding to images of a reference block and a target block.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hayashi and Hong disclose motion prediction and compensating apparatus and method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. Lee whose telephone number is (703) 308-7584.

The examiner can normally be reached on (703) 308-7584.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Y. Lee
Primary Examiner
Art Unit 2613

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